

Name: _____

at1118paper: Complete the Square (v418)

Example

By completing the square, find both solutions to the given equation:

$$x^2 - 60x = -644$$

Add $\left(\frac{-60}{2}\right)^2$, which equals 900, to both sides of the equation.

$$x^2 - 60x + 900 = 256$$

Factor the left side.

$$(x - 30)^2 = 256$$

Undo the squaring. We need to consider both $\pm\sqrt{256}$.

$$x - 30 = -16$$

or

$$x - 30 = 16$$

$$x = 14$$

or

$$x = 46$$

Question 1

By completing the square, find both solutions to the given equation:

$$x^2 + 28x = -132$$

Question 2

By completing the square, find both solutions to the given equation:

$$x^2 + 6x = 160$$

Question 3

By completing the square, find both solutions to the given equation:

$$x^2 - 50x = -624$$

Question 4

By completing the square, find both solutions to the given equation:

$$x^2 - 36x = -260$$

Question 5

By completing the square, find both solutions to the given equation:

$$x^2 + 58x = -552$$

Question 6

By completing the square, find both solutions to the given equation:

$$x^2 - 48x = -567$$